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Portage, a few miles down the river, *Hypericum Kalmianum*, L., grew in hollow places of the rocks near the water, quite different in habitat from that in the wetish sands at the head of Lake Michigan. *Rhabdoweisia fugax* also grows in the dry sands near Englewood, and at Whittings, Ind. The hare-bell, *Campanula rotundifolia*, was everywhere abundant in such places.

On ledges of the Iron Range at Quinnesec were gathered *Dracocephalum parviflorum*, Nutt., with purple flowers, and *Symphoricarpos racemosus*, Michx., var. *pauciflorus*, Robbins, and *Bromus Kalmii*, Gray. On the cliffs of the stream which forms the outlet of Lake Fumee, which has several pretty waterfalls as it crosses the Iron Range to the river below, was a form of *Arabis Drummondii*, Gray, with rose-colored petals scarcely longer than the calyx. Covering the faces of the dripping rocks *Hypnum filicinum*, L., grew in large sheets.

One more moss may be mentioned, of quite singular appearance, growing by paths in sandy and clayey woods, *Trematodon longicollis*, Rich. Nor must an introduced plant, found near the railroad at Vulcan, be omitted, *Echium vulgare*, L., that has taken a long stride northward and become well established.

The foregoing is not designed to be a complete account of even the summer flora of the Iron Region, but only as indicative of some of its more striking features, such as interested the writer, and presumably may also interest others. Many mosses were collected, the greater part of which still remain to be critically studied, having been partly left in anticipation of the work of Lesquereux and James, since the reception of which time has not been at command. But so far as studied, the moss flora does not materially differ from that already made out for the region around Sault St. Marie, and at Mackinaw, and the northern counties of the southern peninsula of Michigan, where several summers have been spent more or less in personal investigation. It is varied and luxuriant, and has features that, to some extent, characterize that of Lake Superior, or even British America.

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## GENERAL NOTES.

**A New Classification of Plant Tissues.**—In Dr. G. Haberlandt's recent work on the "Physiological Anatomy of Plants," published by Engelmann, of Leipzig, there are several changes in doctrine which teachers and workers would do well to note, and adopt or not as they see fit. Sachs' "Fundamental System" of tissues is rejected, as we think, with good reason. It could only be

defined in a negative way, as those tissues which were neither epidermal nor fibro-vascular, no real positive character grouping them together. The author proposes rather a basis of function, which sounds well, provided function can always be clearly made out. We have then such groupings as "Protective System," "Mechanical System," "Conducting System," etc., all grouped under the two general heads of protection and nutrition. Such arrangement, for instance, puts bast and wood-cells among protecting tissues, and tracheary tissue, sieve vessels, soft bast, etc., among conducting tissues, under the nutritive group. This may do for a physiological grouping, but the anatomist will yet demand that the fibro-vascular bundle, for instance, be considered some how as a whole. Dr. Haberlandt thinks that wood-cells are purely mechanical and not at all conductive, and that tracheary tissue conducts, not air, but water. The fact that tracheary vessels have no connection with intercellular spaces or stomata is taken as evidence of a low pressure of air within them, thus, perhaps, inducing suction to some extent: The ordinary tracheary vessels are for the "through passage" of water, but tracheids for local distribution and so abound in leaves. The conductive tissue for proteids consists of the soft bast and sieve tubes. The book is a valuable one, but is itself an illustration of the fact that a classification of tissues upon the basis of function, however desirable, is not practicable in the present state of our knowledge.

**Dr. H. C. Beardslee.**—It is our painful duty to record the death (in December last) of a constant subscriber and contributor to the GAZETTE, Dr. H. C. Beardslee, of Painesville, Ohio. Some years ago he published a catalogue of the plants of Ohio, which he perfected before his death. Owing to a failure in the appropriation for the publication of the Geological Survey of Ohio this completed catalogue has never been printed. Dr. Beardslee's herbarium is now at Oberlin, consisting of about 4,000 species, and being especially rich in Carices, Grasses, and Salices.

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## EDITORIAL NOTES.

MR. GEORGE BENTHAM bequeathed £1,000 to the Linnean Society.

DR. PARRY will remain abroad during the winter. He is spending much time at the Kew Herbarium.

CENT. XIV AND XV of Ellis' North American Fungi will be issued soon. Cent. XV is to be devoted to Uredineæ.

THE HERBARIUM of Dr. Göppert, recently deceased, has been bought for the botanical garden at Breslau for \$1,000.

THE HERBARIUM of Cornell University has been estimated to be worth \$1,800, as evidence in the McGraw-Fiske will suit.

THE CHAIR OF BOTANY in the Iowa Agricultural College has been tendered to Dr. B. D. Halsted, editor of the *American Agriculturist*.